General

Guideline Title

Postmastectomy radiotherapy: an American Society of Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology focused guideline update.

Bibliographic Source(s)

Recht A, Comen EA, Fine RE, Fleming GF, Hardenbergh PH, Ho AY, Hudis CA, Hwang ES, Kirshner JJ, Morrow M, Salerno KE, Sledge GW Jr, Solin LJ, Spears PA, Whelan TJ, Somerfield MR, Edge SB. Postmastectomy radiotherapy: an American Society of Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology focused guideline update. J Clin Oncol. 2016 Dec 20;34(36):4431-42. [71 references] PubMed

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Recht A, Edge SB, Solin LJ, Robinson DS, Estabrook A, Fine RE, Fleming GF, Formenti S, Hudis C, Kirshner JJ, Krause DA, Kuske RR, Langer AS, Sledge GW, Whelan TJ, Pfister DG. Postmastectomy radiotherapy: clinical practice guidelines of the American Society of Clinical Oncology. J Clin Oncol. 2001 Mar 1;19(5):1539-69. [253 references]

This guideline meets NGC's 2013 (revised) inclusion criteria.

Recommendations

Major Recommendations

Definitions for the rating of evidence (High, Intermediate, Low, Insufficient); types of recommendations (Evidence based, Formal consensus, Informal consensus, No recommendation); and strength of recommendations (Strong, Moderate, Weak) are provided at the end of the "Major Recommendations" field.

Clinical Question 1

Is postmastectomy radiotherapy (PMRT) indicated in patients with T1-2 tumors with one to three positive axillary lymph nodes who undergo axillary lymph node dissection (ALND)?

Updated Recommendations

Recommendation 1a. The panel unanimously agreed that the available evidence shows that PMRT reduces

the risks of locoregional failure (LRF), any recurrence, and breast cancer mortality for patients with T1-2 breast cancer with one to three positive axillary nodes (Type: evidence based; Evidence quality: high; Strength of recommendation: strong). However, some subsets of these patients are likely to have such a low risk of LRF that the absolute benefit of PMRT is outweighed by its potential toxicities (Type: evidence based; Evidence quality: intermediate; Strength of recommendation: strong). In addition, the acceptable ratio of benefit to toxicity varies among patients and physicians. Thus, the decision to recommend PMRT or not requires a great deal of clinical judgment. The panel agreed clinicians making such recommendations for individual patients should consider factors that may decrease the risk of LRF, attenuate the benefit of reduced breast cancer–specific mortality, and/or increase the risk of complications resulting from PMRT. These factors include: patient characteristics (e.g., age >40 to 45 years, limited life expectancy because of older age or comorbidities, or coexisting conditions that might increase the risk of complications), pathologic findings associated with a lower tumor burden (e.g., T1 tumor size, absence of lymphovascular invasion, presence of only a single positive node and/or small size of nodal metastases, or substantial response to neoadjuvant systemic therapy [NAST]), and biologic characteristics of the cancer associated with better outcomes and survival and/or greater effectiveness of systemic therapy (e.g., low tumor grade or strong hormonal sensitivity) (Type: informal consensus; Evidence quality: intermediate; Strength of recommendation: moderate). There are several risk-adaptive models that physicians may find useful in explaining the benefits of PMRT during shared decision making with patients. However, the panel found insufficient evidence to endorse any specific model or to unambiguously define specific patient subgroups to which PMRT should not be administered (Type: no recommendation; Evidence quality: low; Strength of recommendation: weak). Further research is needed on how to accurately estimate individuals' risk of LRF and hence their potential reductions in LRF and breast cancer mortality.

Recommendation 1b. The decision to use PMRT should be made in a multidisciplinary fashion through discussion among providers from all treating disciplines early in a patient's treatment course (soon after surgery or before or soon after the initiation of systemic therapy), either in the context of a formal tumor board or by referral (Type: informal consensus; Evidence quality: insufficient; Strength of recommendation: strong).

Recommendation 1c. Decision making must fully involve the patient, whose values as to what constitutes sufficient benefit and how to weigh the risk of complications against this in light of the best information the treating physicians can provide regarding PMRT in her situation must be respected and incorporated into the final treatment choice (Type: informal consensus; Evidence quality: insufficient; Strength of recommendation: strong).

Clinical Question 2

Is PMRT indicated in patients with T1-2 tumors and a positive sentinel node biopsy (SNB) who do not undergo completion ALND?

Recommendation. For patients with clinical T1-2 tumors with clinically negative nodes, SNB is now generally performed at the time of mastectomy, with omission of ALND if the nodes are negative. ALND has generally been performed if the nodes are positive, but there is increasing controversy about whether this is always necessary, especially if there is limited disease in the affected nodes. The panel recognizes that some clinicians omit axillary dissection with one or two positive sentinel nodes in patients treated with mastectomy. This practice is primarily based on extrapolation of data from randomized trials of patients treated exclusively or predominantly with breast-conserving surgery and whole-breast irradiation or breast plus axillary irradiation. In such cases where clinicians and patients elect to omit axillary dissection, the panel recommends that these patients receive PMRT only if there is already sufficient information to justify its use without needing to know that additional axillary nodes are involved (Type: informal consensus; Evidence quality: weak; Strength of recommendation: moderate).

Clinical Question 3

Is PMRT indicated in patients with clinical stage I or II cancers who have received NAST?

Updated Recommendation. Patients with axillary nodal involvement that persists after NAST (e.g., less than a complete pathologic response) should receive PMRT. Observational data suggest a low risk of locoregional recurrence for patients who have clinically negative nodes and receive NAST or who have a complete pathologic response in the lymph nodes with NAST. However, there is currently insufficient evidence to recommend whether PMRT should be administered or can be routinely omitted in these groups. The panel recommends entering eligible patients in clinical trials that examine this question (Type: informal consensus; Evidence quality: low; Strength of recommendation: weak).

Clinical Question 4

Should regional nodal irradiation (RNI) include both the internal mammary nodes (IMNs) and supraclavicular-axillary apical nodes when PMRT is used in patients with T1-2 tumors with one to three positive axillary nodes?

Updated Recommendation. The panel recommends treatment generally be administered to both the IMNs and the supraclavicular-axillary apical nodes in addition to the chest wall or reconstructed breast when PMRT is used for patients with positive axillary lymph nodes. There may be subgroups that will experience limited, if any, benefits from treating both these nodal areas compared with treating only one or perhaps treating only the chest wall or reconstructed breast. There is insufficient evidence at this time to define such subgroups in detail. Additional research is needed to identify them (Type: informal consensus; Evidence quality: intermediate; Strength of recommendation: moderate).

Definitions

Guide for Rating Strength of Evidence

Rating for Strength of Evidence	Definition
High	High confidence that the available evidence reflects the true magnitude and direction of the net effect (i.e., balance of benefits versus harms) and that further research is very unlikely to change either the magnitude or direction of this net effect.
Intermediate	Moderate confidence that the available evidence reflects the true magnitude and direction of the net effect. Further research is unlikely to alter the direction of the net effect; however, it might alter the magnitude of the net effect.
Low	Low confidence that the available evidence reflects the true magnitude and direction of the net effect. Further research may change either the magnitude and/or direction this net effect.
Insufficient	Evidence is insufficient to discern the true magnitude and direction of the net effect. Further research may better inform the topic. The use of the consensus opinion of experts is reasonable to inform outcomes related to the topic.

Guide for Types of Recommendations

Type of Recommendation	Definition
Evidence based	There was sufficient evidence from published studies to inform a recommendation to guide clinical practice.
Formal consensus	The available evidence was deemed insufficient to inform a recommendation to guide clinical practice. Therefore, the Expert Panel used a formal consensus process to reach this recommendation, which is considered the best current guidance for practice. The Panel may choose to provide a rating for the strength of the recommendation (i.e., "strong," "moderate," or "weak"). The results of the formal consensus process are summarized in the guideline and reported in the Data Supplement (see the "Availability of Companion Documents" field).
Informal Consensus	The available evidence was deemed insufficient to inform a recommendation to guide clinical practice. The recommendation is considered the best current guidance for practice, based on informal consensus of the Expert Panel. The Panel agreed that a formal consensus process was not necessary for reasons described

Type of Recommendation	Definition
	in the literature review and discussion. The Panel may choose to provide a rating for the strength of the recommendation (i.e., "strong," "moderate," or "weak").
No recommendation	There is insufficient evidence, confidence, or agreement to provide a recommendation to guide clinical practice at this time. The Panel deemed the available evidence as insufficient and concluded it was unlikely that a formal consensus process would achieve the level of agreement needed for a recommendation.

Guide for Rating Strength of Recommendations

Rating for Strength of Recommendation	Definition
Strong	There is high confidence that the recommendation reflects best practice. This is based on (1) strong evidence for a true net effect (e.g., benefits exceed harms); (2) consistent results, with no or minor exceptions; (3) minor or no concerns about study quality; and/or (4) the extent of panelists' agreement. Other compelling considerations (discussed in the guideline's literature review and analyses) may also warrant a strong recommendation.
Moderate	There is moderate confidence that the recommendation reflects best practice. This is based on (1) good evidence for a true net effect (e.g., benefits exceed harms); (2) consistent results, with minor and/or few exceptions; (3) minor and/or few concerns about study quality; and/or (4) the extent of panelists' agreement. Other compelling considerations (discussed in the guideline's literature review and analyses) may also warrant a moderate recommendation.
Weak	There is some confidence that the recommendation offers the best current guidance for practice. This is based on (1) limited evidence for a true net effect (e.g., benefits exceed harms); (2) consistent results, but with important exceptions; (3) concerns about study quality; and/or (4) the extent of panelists' agreement. Other considerations (discussed in the guideline's literature review and analyses) may also warrant a weak recommendation.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Breast cancer

Guideline Category

Management

Treatment

Clinical Specialty

Obstetrics and Gynecology

Oncology

Pathology

Radiation Oncology

Radiology

Surgery

Intended Users

Advanced Practice Nurses

Patients

Physician Assistants

Physicians

Guideline Objective(s)

- To develop an update of the American Society of Clinical Oncology (ASCO) guideline concerning use of postmastectomy radiotherapy (PMRT)
- To focus on key areas of ongoing controversy, including the use of PMRT for patients with one to three positive lymph nodes, use of PMRT for patients undergoing neoadjuvant systemic therapy (NAST), and selected technical aspects of PMRT, particularly the extent of regional nodal irradiation (RNI)
- To discuss whether PMRT is indicated in women with T1-2 tumors and a positive sentinel node biopsy (SNB) who do not undergo completion axillary lymph node dissection (ALND)

Target Population

- Patients with T1-2 tumours with one to three axillary lymph nodes or a positive sentinel lymph node biopsy
- Patients presenting with clinical stage I or II cancers

Interventions and Practices Considered

1. Use of postmastectomy radiotherapy (PMRT)
2. Decisions-making using a multidisciplinary approach and patient involvement
3. Selected technical aspects of PMRT, particularly the extent of regional nodal irradiation (RNI)

Major Outcomes Considered

- Locoregional failure rate
- Recurrence rate
- Disease-fee survival
- Distant disease-free survival
- Breast cancer-specific mortality
- Overall survival
- Treatment toxicity

Methodology

Methods Used to Collect/Select the Evidence

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Searches of Unpublished Data

Description of Methods Used to Collect/Select the Evidence

Literature Search Strategy

The American Society of Clinical Oncology (ASCO) uses a signals approach to facilitate guideline updating. This approach is intended to identify new, potentially practice-changing data that might translate into revised practice recommendations. The approach relies on targeted literature searching and the expertise of ASCO guideline panel members to identify signals. The Methodology Supplement (see the "Availability of Companion Documents" field) provides additional information about the signals approach.

The 2014 publication of the Early Breast Cancer Trialists' Collaborative Group (EBCTCG) meta-analysis provided the signal for this focused update.

The Expert Panel developed its recommendations based on evidence identified through online searches of the MEDLINE, EMBASE, and Pubmed databases. Details of the searches are provided in the Data Supplement (see the "Availability of Companion Documents" field).

The systematic review of literature by the Cancer Care Ontario (CCO) of locoregional therapy for locally advanced breast cancer guideline (see the "Availability of Companion Documents" field) provided the primary evidentiary basis for the ASCO guideline focused update. The CCO literature searches identified systematic reviews, meta-analyses, randomized controlled trials, cohort studies, and clinical practice guidelines that studied locoregional therapy for locally advanced breast cancer. For studies to be included in the analysis, the CCO required them to have at least 50 patients, have a prospective design, and provide a statistical comparison of the interventions of interest. At the request of ASCO, CCO guideline staff conducted an updated search of the CCO systematic review. The yield from the updated CCO search was reviewed for new, potentially practice-changing data.

Two additional targeted searches were conducted by the ASCO Guidelines Division staff to identify systematic reviews, meta-analyses, and randomized controlled trials of postmastectomy radiotherapy (PMRT) in women who had received neoadjuvant chemotherapy and of technical aspects of PMRT, especially regional nodal irradiation (RNI). A third targeted literature search and review was conducted to identify single-center and multi-institutional prospective and retrospective studies of patients treated since the PMRT trials in the EBCTCG meta-analysis were completed. Inclusion criteria for this targeted review were: retrospective or prospective study published between January 2001 and July 2015, patients accrued from 1985 or later, 150 or more patients explicitly identified with T1-2 cancers with one to three positive nodes, patients not treated with neoadjuvant chemotherapy, and median follow-up 48 months or longer.

The original CCO literature searches identified 6482 references, and the revised search (December 2011) found 23,629 additional references. The final updates (August and December 2013) found an additional 12,027 citations. Additional references (mostly results of older trials on postmastectomy radiotherapy [PMRT]) were located from the reference lists of included studies and recent reviews.

See the data supplement for information on dates, search strategy, and numbers of ASCO literature searches.

Number of Source Documents

Cancer Care Ontario (CCO) Search

There were 143 publications of trials, as well as 18 guidelines and 27 systematic reviews or meta-analysis that were relevant. None of the guidelines met the criteria for endorsement. Thirteen systematic reviews and meta-analyses were included.

Update of CCO Literature Search for Guideline on Locoregional Therapy for Locally Advanced Breast Cancer

None of the publications provided new evidence that would warrant substantive modification of the practice recommendations as drafted. One of the publications informed the American Society of Clinical Oncology (ASCO Panel's comments, and is referenced in the manuscript.

Search on Postmastectomy Radiotherapy (PMRT) in Women Who Have Received Neoadjuvant Chemotherapy

None of the publications provided new evidence that would warrant substantive modification of the practice recommendations.

Search on Technical Aspects of PMRT

One of the publications from the formal search and two other publications identified from panel members' files provided new evidence that informed the practice recommendations.

Search on Single-center and Multi-institutional Prospective and Retrospective Studies of Patients Treated Since the PMRT Trials in the Early Breast Cancer Trialists' Collaborative Group (EBCTCG) Meta-analysis Were Completed

After review of the full-text articles, 17 of the publications provided evidence that informed the practice recommendations as drafted.

Quality of Reporting of Meta-analyses (QUOROM) Diagrams that report the results of the literature searches are available in Data Supplement 2 (see the "Availability of Companion Documents" field).

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Guide for Rating Strength of Evidence

Rating for Strength of Evidence	Definition
High	High confidence that the available evidence reflects the true magnitude and direction of the net effect (i.e., balance of benefits versus harms) and that further research is very unlikely to change either the magnitude or direction of this net effect.
Intermediate	Moderate confidence that the available evidence reflects the true magnitude and direction of the net effect. Further research is unlikely to alter the direction of the net effect; however, it might alter the magnitude of the net effect.
Low	Low confidence that the available evidence reflects the true magnitude and direction of the net effect. Further research may change either the magnitude and/or direction this net effect.
Insufficient	Evidence is insufficient to discern the true magnitude and direction of the net effect. Further research may better inform the topic. The use of the consensus opinion of experts is reasonable to inform outcomes related to the topic.

Guide for Rating of Potential for Bias

Rating of Potential for Bias	Definitions for Rating Potential for Risk of Bias in Randomized Controlled Trials
Low risk	No major features in the study that risk biased results, and none of the limitations are thought to decrease the validity of the conclusions. The study avoids problems such as failure to apply true randomization, selection of a population unrepresentative of the target patients, high dropout rates, and no intention-to-treat analysis; and key study features are described clearly (including the population, setting, interventions, comparison groups, measurement of outcomes, and reasons for dropouts).
Intermediate	The study is susceptible to some bias, but flaws are not sufficient to invalidate the results. Enough of the items introduce some uncertainty about the validity of the conclusions. The study does not meet all the criteria required for a rating of good quality, but no flaw is likely to cause major bias. The study may be missing information, making it difficult to assess limitations and potential problems.
High risk	There are significant flaws that imply biases of various types that may invalidate the results. Several of the items introduce serious uncertainty about the validity of the conclusions. The study has serious errors in design, analysis, or reporting; large amounts of missing information; or discrepancies in reporting.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Cancer Care Ontario Guideline

Quality Appraisal of Evidence-Based Guidelines

The SAGE Inventory of Cancer Guidelines is a searchable database of more than 2200 cancer control guidelines and standards released since 2003, developed and maintained by the Canadian Partnership Against Cancer's Capacity Enhancement Program (http://www.cancerguidelines.ca/Guidelines/inventory/index.php). This inventory includes evaluation of the process of practice guideline development and the quality of reporting using The Appraisal of Guidelines for Research and Evaluation II (AGREE II) Instrument.

Synthesizing the Evidence

When two or more trials provided appropriate data on outcomes of interest, statistical pooling using meta-analysis was done using Review Manager software (RevMan 5.1) (58) provided by the Cochrane Collaboration. A random effects model was used for all pooling because it provides a more conservative estimate. Pooled results are expressed as relative risks (RRs) with 95% confidence intervals (CIs). A RR of less than one favours the drug/supplement and an RR of greater than one favours the placebo or control intervention.

Methods Used to Formulate the Recommendations

Expert Consensus

Informal Consensus

Description of Methods Used to Formulate the Recommendations

Panel Composition

The American Society of Clinical Oncology (ASCO) Clinical Practice Guidelines Committee (CPGC) and the ASCO Breast Cancer Guideline Advisory Group (GAG) convened an Expert Panel with multidisciplinary representation in medical oncology, radiation oncology, surgical oncology, and community oncology. The panel included a member of Practice Guidelines Implementation Network, and patient/advocacy representation. The Expert Panel was led by two Co-Chairs who had the primary responsibility for the development and timely completion of the guideline. The Panel had one face-to-face meeting and a single webinar. The Co-Chairs and ASCO staff prepared a draft guideline for review and rating by the Expert Panel.

For this joint ASCO-American Society for Radiation Oncology (ASTRO)-Society of Surgical Oncology (SSO) focused guideline update, ASTRO and SSO each provided two formal representatives.

Guideline Development Process

The full Expert Panel met on two occasions and corresponded frequently through email; progress on guideline development was driven primarily by the Co-Chairs and ASCO staff. The purpose of the Panel meetings was for members to contribute content, provide critical review, interpret evidence, and finalize the guideline recommendations based upon the consideration of the evidence. All members of the Expert Panel participated in the preparation of the draft guideline document.

The guideline recommendations were rated, in part, using the principles of the GuideLines Into DEcision Support (GLIDES) methodology.

Rating Scheme for the Strength of the Recommendations

Guide for Types of Recommendations

Type of Recommendation	Definition
Evidence based	There was sufficient evidence from published studies to inform a recommendation to guide clinical practice.
Formal consensus	The available evidence was deemed insufficient to inform a recommendation to guide clinical practice. Therefore, the Expert Panel used a formal consensus process to reach this recommendation, which is considered the best current guidance for practice. The Panel may choose to provide a rating for the strength of the recommendation (i.e., "strong," "moderate," or "weak"). The results of the formal consensus process are summarized in the guideline and reported in the Data Supplement (see the "Availability of Companion Documents" field).
Informal Consensus	The available evidence was deemed insufficient to inform a recommendation to guide clinical practice. The recommendation is considered the best current guidance for practice, based on informal consensus of the Expert Panel. The Panel agreed that a formal consensus process was not necessary for reasons described in the literature review and discussion. The Panel may choose to provide a rating for the strength of the recommendation (i.e., "strong," "moderate," or "weak").
No recommendation	There is insufficient evidence, confidence, or agreement to provide a recommendation to guide clinical practice at this time. The Panel deemed the available evidence as insufficient and concluded it was unlikely that a formal consensus process would achieve the level of agreement needed for a recommendation.

Guide for Strength of Recommendations

Rating for Strength of Recommendation	Definition
Strong	There is high confidence that the recommendation reflects best practice. This is based on (1) strong evidence for a true net effect (e.g., benefits exceed harms); (2) consistent results, with no or minor exceptions; (3) minor or no concerns

Rating for Strength of Recommendation	Definition
	about study quality; and/or (4) the extent of panelists' agreement. Other compelling considerations (discussed in the guideline's literature review and analyses) may also warrant a strong recommendation.
Moderate	There is moderate confidence that the recommendation reflects best practice. This is based on (1) good evidence for a true net effect (e.g., benefits exceed harms); (2) consistent results, with minor and/or few exceptions; (3) minor and/or few concerns about study quality; and/or (4) the extent of panelists' agreement. Other compelling considerations (discussed in the guideline's literature review and analyses) may also warrant a moderate recommendation.
Weak	There is some confidence that the recommendation offers the best current guidance for practice. This is based on (1) limited evidence for a true net effect (e.g., benefits exceed harms); (2) consistent results, but with important exceptions; (3) concerns about study quality; and/or (4) the extent of panelists' agreement. Other considerations (discussed in the guideline's literature review and analyses) may also warrant a weak recommendation.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

All American Society of Clinical Oncology (ASCO) guidelines are reviewed and approved by the ASCO Clinical Practice Guidelines Committee. The focused update was also reviewed by American Society for Radiation Oncology's (ASTRO's) Guidelines Committee and approved by the ASTRO Board of Directors; the update was reviewed by Society of Surgical Oncology's (SSO's) Breast Cancer Disease Site Work Group and approved by the SSO Quality Committee and Executive Council.

The draft guideline document was disseminated for external review and submitted to the *Journal of Clinical Oncology (JCO)*; the *International Journal of Radiation Oncology, Biology, Physics (IJROBP)*; and *Annals of Surgical Oncology* for peer review and publication.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

The panel unanimously agreed that available evidence shows that postmastectomy radiotherapy (PMRT) reduces the risks of locoregional failure (LRF), any recurrence, and breast cancer mortality for patients

with T1-2 breast cancer with one to three positive axillary nodes. However, some subsets of these patients are likely to have such a low risk of LRF that the absolute benefit of PMRT is outweighed by its potential toxicities.

Potential Harms

- Risks of postmastectomy radiotherapy (PMRT) include acute and long-term toxicities, such as rare but potentially fatal second cancers and cardiac events.
- Treating the supraclavicular and internal mammary node (IMN) areas can result in additional toxicities, with pulmonary and cardiac morbidities being particular concerns even with improved radiotherapy techniques. Additional analyses of these trials and other studies are needed to determine which patients should undergo irradiation of only one or neither of these areas.
- In general, the full axilla is not irradiated in those who have had axillary lymph node dissection (ALND), because recurrence in the dissected axilla is rare, and its inclusion may further increase toxicities, particularly lymphedema.
- Furthermore, many more patients now undergo breast reconstructive surgery. Administration of PMRT can worsen cosmetic results and increase the risk of both short- and long-term complications.

Qualifying Statements

Qualifying Statements

The Clinical Practice Guidelines and other guidance published herein are provided by the American Society of Clinical Oncology, Inc. (ASCO) to assist providers in clinical decision making. The information herein should not be relied upon as being complete or accurate, nor should it be considered as inclusive of all proper treatments or methods of care or as a statement of the standard of care. With the rapid development of scientific knowledge, new evidence may emerge between the time information is developed and when it is published or read. The information is not continually updated and may not reflect the most recent evidence. The information addresses only the topics specifically identified therein and is not applicable to other interventions, diseases, or stages of diseases. This information does not mandate any particular course of medical care. Further, the information is not intended to substitute for the independent professional judgment of the treating provider, as the information does not account for individual variation among patients. Recommendations reflect high, moderate, or low confidence that the recommendation reflects the net effect of a given course of action. The use of words like "must," "must not," "should," and "should not" indicates that a course of action is recommended or not recommended for either most or many patients, but there is latitude for the treating physician to select other courses of action in individual cases. In all cases, the selected course of action should be considered by the treating provider in the context of treating the individual patient. Use of the information is voluntary. ASCO provides this information on an "as is" basis and makes no warranty, express or implied, regarding the information. ASCO specifically disclaims any warranties of merchantability or fitness for a particular use or purpose. ASCO assumes no responsibility for any injury or damage to persons or property arising out of or related to any use of this information, or for any errors or omissions.

Implementation of the Guideline

Description of Implementation Strategy

ASCO guidelines are posted on the American Society for Clinical Oncology (ASCO) Web site and most often published in the *Journal of Clinical Oncology*.

For information on the ASCO implementation strategy, please see the ASCO Web site .

Implementation Tools

Quick Reference Guides/Physician Guides

Slide Presentation

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Safety

Identifying Information and Availability

Bibliographic Source(s)

Recht A, Comen EA, Fine RE, Fleming GF, Hardenbergh PH, Ho AY, Hudis CA, Hwang ES, Kirshner JJ, Morrow M, Salerno KE, Sledge GW Jr, Solin LJ, Spears PA, Whelan TJ, Somerfield MR, Edge SB. Postmastectomy radiotherapy: an American Society of Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology focused guideline update. J Clin Oncol. 2016 Dec 20;34(36):4431-42. [71 references] PubMed

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2016 Dec 20

Guideline Developer(s)

American Society for Radiation Oncology - Professional Association

American Society of Clinical Oncology - Medical Specialty Society

Society of Surgical Oncology - Medical Specialty Society

Source(s) of Funding

American Society of Clinical Oncology

Guideline Committee

Postmastectomy Radiotherapy Expert Panel

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Financial Disclosures/Conflicts of Interest

Guideline and Conflicts of Interest

The expert panel was assembled in accordance with the American Society of Clinical Oncology (ASCO) Conflict of Interest Management Procedures for Clinical Practice Guidelines summarized at www.asco.org/rwc). Members of the panel completed the ASCO disclosure form, which requires disclosure of financial and other interests that are relevant to the subject matter of the guideline, including relationships with commercial entities that are reasonably likely to experience direct regulatory or commercial impact as a result of promulgation of the guideline. Categories for disclosure include: employment; leadership; stock or other ownership; honoraria, consulting or advisory role; speaker's bureau; research funding; patents, royalties, other intellectual property; expert testimony; travel, accommodations, expenses; and other relationships. In accordance with these procedures, the majority of the members of the panel did not disclose any such relationships.

Authors' Disclosures and Potential Conflicts of Interest

The following represents disclosure information provided by authors of this manuscript. All relationships are considered compensated. Relationships are self-held unless noted. I = Immediate Family Member, Inst = My Institution. Relationships may not relate to the subject matter of this manuscript. For more information about ASCO's conflict of interest policy, please refer to www.asco.org/rwc or jco.ascopubs.org/site/ifc .

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Consulting or Advisory Role: Symphogen, Nektar, Synaffix, Radius
Research Funding: Genentech (Inst)
Travel, Accommodations, Expenses: GlaxoSmithKline, Nektar, Radius

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No relationship to disclose

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Travel, Accommodations, Expenses: Genentech

Timothy J. Whelan
Consulting or Advisory Role: Genomic Health

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No relationship to disclose

Stephen B. Edge
No relationship to disclose

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Recht A, Edge SB, Solin LJ, Robinson DS, Estabrook A, Fine RE,

Fleming GF, Formenti S, Hudis C, Kirshner JJ, Krause DA, Kuske RR, Langer AS, Sledge GW, Whelan TJ, Pfister DG. Postmastectomy radiotherapy: clinical practice guidelines of the American Society of Clinical Oncology. J Clin Oncol. 2001 Mar 1;19(5):1539-69. [253 references]

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Available from the Journal of Clinical Oncology Web site .

Availability of Companion Documents

The following are available:

Postmastectomy radiotherapy: an American Society of Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology focused guideline update. Methodology supplement. Alexandria (VA): American Society of Clinical Oncology (ASCO); 2016. 6 p. Available from the Journal of Clinical Oncology Web site .

Postmastectomy radiotherapy: an American Society of Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology focused guideline update. Data supplements 1-4. Alexandria (VA): American Society of Clinical Oncology (ASCO); 2016. 50 p. Available from the Journal of Clinical Oncology Web site .

Postmastectomy radiotherapy: an American Society of Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology focused guideline update. Slide set. Alexandria (VA): American Society of Clinical Oncology; 2016. 16 p. Available in PDF and PowerPoint from the American Society of Clinical Oncology (ASCO) Web site.

Postmastectomy radiotherapy: an American Society of Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology focused guideline update. Summary of recommendations table. Alexandria (VA): American Society of Clinical Oncology; 2016. 3 p. Available from the ASCO Web site .

Postmastectomy radiotherapy: an American Society of Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology focused guideline update summary. J Oncol Pract. 2016 Dec;12(12):1258-61. Available from the Journal of Oncology Practice Web site .

Brackstone M, Fletcher GG, Dayes IS, Madarnas Y, SeGupta SK, Verma S, Members of the Breast Cancer Disease Site Group. Locoregional therapy of locally advanced breast cancer (LABC). Program in Evidence-Based Care Evidence-Based Series No. 1-19. Toronto, Ontario (Canada): Cancer Care Ontario; 2014 Sep 29. 124 p. Available from the Cancer Care Ontario Web site .

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI on May 25, 2001. It was verified by the guideline developer as of September 7, 2001. This summary was updated by ECRI Institute on April 5, 2017.

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